UNMANNED AIRCRAFT SYSTEMS (UAS)

The Marine Corps has employed unmanned aerial vehicles (UAVs) since 1986 to provide near real-time reconnaissance, surveillance, and intelligence to tactical commanders. The demand for Intelligence, Surveillance, and Reconnaissance support continues to grow, and clearly highlights the increased need for Unmanned Aircraft Systems (UAS) in the Marine Corps. To fulfill this need, the Marine Unmanned Aerial Vehicle Squadron (VMU) has begun an organizational transformation that will lead to a flexible, scaleable, detachment based squadron. This reorganization is based around the Army One Ground Control Station (GCS), envisioned as the common GCS for all tiers of Marine Corps UAS Family of Systems (FoS) and all current Army UAS.

The Marine Corps's UAS concept of employment is divided into three tiers, each coinciding with the echelon of command they support. The Marine Corps Combat Development Command (MCCDC) has completed the Marine Corps UAS Family of Systems concept of operations and the USMC overarching capabilities study which will refine the requirements for the USMC Family of UAS Systems.

The Marine Corps' Tier I UAS, Dragon Eye, is being flown at the Battalion level and below with great success in Operation Iraqi Freedom and Operation Enduring Freedom. The Dragon Eye UAS achieved Initial Operational Capability (IOC) in June 2004. The Marine Corps is currently transitioning from Dragon Eye to the Joint Small UAS, Raven-B, which has been selected by the Army and the U.S. Special Operations Command. There are currently 270 Dragon Eye in the inventory with plans to procure 323 Raven-B systems which will replace Dragon Eye systems.

The Marine Division, Regiment, Battalion and Marine Expeditionary Unit (MEU) commanders will be supported by the Tier II UAS. The Marine Corps oversees six Scan Eagle UAS systems under a fee-for-service agreement to fill this identified capability gap. The current sole-source contract will continue to provide this capability through 2010 while a full program of record is developed. The Joint sponsored Tier II UAS program Initial Capabilities Document (ICD) was approved by the Joint Requirement Oversight Council in Dec 06. The program of record has a planned IOC in 2011.

The Marine Corps' Tier III UAS serves the Joint Task Force (JTF)/Marine Air Ground Task Force (MAGTF) commander. The Marine Corps recently retired the RQ-2B Pioneer and transitioned to the RQ-7B Shadow as the Marine Corps' Tier III UAS. The Marine Corps introduced Pioneer in 1986 as an interim UAV system that would be replaced within 10 years. Since then, it has served with distinction from Desert Storm through its current duties in OIF.

The Marine Corps transitioned to the Shadow system during the fourth quar-

ter of fiscal year 2007 and deployed the Shadow-capable VMU to support current OIF operations in September 07. In OIF, Pioneers and Shadows have provided the intelligence necessary to make the difference between success and failure. Using electro-optical and infrared cameras, electronic warfare capabilities and communications relay payloads, ground units have visual access to their areas of responsibility and routes, and force protection enhancers available to them prior to the first Marine crossing the line of departure. By fiscal year 2009, the Marine Corps will increase the number of Shadow systems in each VMU from one to three, and reorganize the squadron's manpower into three detachments, essentially tripling the capability of the VMU without increasing the required manpower. Additionally, the Marine Corps will stand up a third VMU as part of the Grow the Force initiative. VMU-3 will achieve IOC in fiscal year 2008. Initially home based at Marine Corps Air-Ground Combat Command in Twenty-Nine Palms, CA., VMU-3 will eventually move to better support III Marine Expeditionary Force. This will greatly increase the MAGTF's UAS capacity and operational-tempo flexibility.

Vertical Unmanned Aircraft System (VUAS): As the future Tier III, VUAS will provide responsive, real-time reconnaissance, surveillance, intelligence, electronic attack, targeting and weapons employment capability that is organic to the MAGTF and JTF Commanders. It will

have the key attributes necessary to support Expeditionary Maneuver Warfare. These include takeoff and landing from air-capable ships and austere land bases, the speed to be responsive and tactically agile, and the survivability required to operate effectively in denied-access environments. The VUAS ICD was approved in December 2005 and an Analysis of Alternatives (AoA) that examined existing UASs, their costs, and their ability to meet the Marine Corps requirements was completed in November 2007. The AoA will inform Program Objective Memorandum-2010 programmatic decisions.